

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claim 1 (currently amended): Within a digital acquisition device, a method of enhancing perfecting acquisition parameters of a digital image as part of an image a post-image capture process using face detection within said captured image to achieve one or more desired image acquisition parameters, comprising:

- (a) determining default values of one or more image attributes relative exposure or size, or both, of at least some portion of said digital image;
- (b) determining the values of one or more camera acquisition parameters;
- (c) identifying a plurality of groups of pixels that correspond to an image of a face within the digitally-captured image, and determining values corresponding to image attributes relative exposure or size, or both, of said groups of pixels; and
- (d) comparing one or more default image attribute values of relative exposure or size, or both, with one or more captured image attribute values of relative exposure or size, or both, value based upon analysis of said image of said face; and
- (e) adjusting in a post-image capture process said camera acquisition image parameters corresponding to adjusting said image attribute values of relative exposure or size, or both, of said face.

Claim 2 (original): The method of claim 1, each of the steps being performed within a digital still camera.

Claim 3 (original): The method of claim 1, each of the steps being performed within a digital video camera.

Claim 4 (currently amended): The method of claim 1, ~~the one or more parameters comprising including overall exposure, determining and adjusting one or more values of relative exposure of said face, orientation, color balance, white point, tone reproduction, size, or focus, or combinations thereof.~~

Claim 5 (currently amended): ~~The method of claim 1 Within a digital acquisition device, a method of enhancing acquisition parameters of a digital image as part of an image capture process using face detection within said captured image to achieve one or more desired image acquisition parameters, comprising:~~

- (c) ~~determining default values of one or more image attributes of at least some portion of said digital image;~~
- (d) ~~determining the values of one or more camera acquisition parameters;~~
- (c) ~~identifying a plurality of groups of pixels that correspond to an image of a face within the digitally-captured image, and determining corresponding image attributes to said groups of pixels; and~~
- (d) ~~comparing one or more default image attribute values with one or more captured image attribute value based upon analysis of said image of said face; and~~
- (e) ~~adjusting said camera acquisition parameters corresponding to adjusting said image attribute values,~~
~~wherein the face pixels identifying of face pixels is step being automatically performed by an image processing apparatus, the method further comprising manually removing one or more of said plurality of groups of pixels that correspond to said image of said face.~~

Claim 6 (original): A method of manually removing one or more detected faces as recited in claim 5, the method being performed in response to false detection of regions as faces.

Claim 7 (currently amended): A method of manually removing one or more detected faces as recited in claim 5, the method being performed in response to a determination to concentrate on less said image faces than faces identified in said identifying step.

Claim 8 (currently amended): A method of manually removing one or more detected faces as recited in claim 5, the method being performed by increasing a sensitivity level of said face identifying step.

Claim 9 (original): A method of manually removing one or more detected faces as recited in claim 5, the method being performed by an interactive visual method.

Claim 10 (original): An interactive visual method of manually removing one or more detected faces as recited in claim 5, the method being performed using an image acquisition built-in display.

Claim 11 (currently amended): The method of claim 1, the face pixels identifying step being automatically performed by an image processing apparatus, the method further comprising manually adding an indication of another face within the image.

Claim 12. (currently amended): The method of claim 1, the face pixels identifying step being automatically performed by an image processing apparatus which receives a relative value as to a detection assurance.

Claim 13 (currently amended): The method of claim 1, the face pixels identifying step of face pixels being automatically performed by an image processing apparatus which receives a relative value as to an estimated importance of said detected regions.

Claim 14 (currently amended): The method of claim 13, the face pixels identifying step of face pixels being automatically performed by an image processing apparatus, the

method further comprising manually modifying said relative value as to the estimated importance of said detected regions.

Claim 15 (currently amended): A method of digital image processing using face detection to achieve a desired image parameter, comprising ~~the steps of~~:

- (a) identifying a group of pixels that correspond to an image of a face within a digitally-detected image;
- (b) determining initial values of ~~one or more parameters~~ relative exposure or size, or both, of at least some of the pixels; and
- (c) determining an initial parameter relative exposure or size, or both, of the digitally-detected image of said face based on the initial values; and
- (d) automatically adjusting values of the ~~one or more parameters~~ relative exposure or size, or both, of pixels within the digitally-detected image of said face based upon comparison of the initial parameter relative exposure or size, or both, of said face with the a desired parameter relative exposure or size, or both, of said face.

Claim 16 (original): The method of claim 15, the method being performed within a digital camera.

Claim 17 (currently amended): The method of claim 16, ~~the one or more parameters including overall exposure, comprising determining one or more initial values of relative exposure, orientation, color balance, white point, tone reproduction, size, or focus, or combinations thereof of said face, and adjusting one or more values of the relative exposure of said face.~~

Claim 18 (currently amended): The method of claim 16, the face pixels identifying step being automatically performed by an image processing apparatus, the method further comprising manually removing a false indication of another face within the image.

Claim 19 (currently amended): The method of claim 16, the ~~face pixels identifying step~~ being automatically performed by an image processing apparatus, the method further comprising manually adding an indication of another face within the image.

Claim 20 (currently amended): The method of claim 15, the one or more parameters including ~~overall exposure, relative exposure, orientation, color balance, white point, tone reproduction, determining one or more initial values of size of said face, and adjusting one or more values of size of said face, or focus, or combinations thereof.~~

Claim 21 (currently amended): ~~The method of claim 15 A method of digital image processing using face detection to achieve a desired image parameter, comprising:~~

~~(a) identifying a group of pixels that correspond to an image of a face within a digitally-detected image;~~

~~(b) determining initial values of one or more parameters of at least some of the pixels; and~~

~~(c) determining an initial parameter of the digitally-detected image based on the initial values; and~~

~~(d) automatically adjusting values of the one or more parameters of pixels within the digitally-detected image based upon comparison of the initial parameter with the desired parameter,~~

~~wherein the face pixels identifying of face pixels is step being automatically performed by an image processing apparatus, the method further comprising manually removing a false indication of another face within the image.~~

Claim 22 (currently amended): The method of claim 15, the ~~face pixels identifying step of face pixels~~ being automatically performed by an image processing apparatus, the method further comprising manually adding an indication of another face within the image.

Claim 23 (currently amended): Within a digital acquisition device, one or more processor readable storage devices having processor readable code embodied thereon, said processor readable code for programming one or more processors to perform a method of ~~perfecting acquisition~~ enhancing parameters of a digital image as part of an image a post-image capture process using face detection within said captured image to achieve one or more desired image acquisition parameters, the method comprising:

(a) determining default values of ~~one or more image attributes relative exposure or size, or both,~~ of at least some portion of said digital image;

(b) determining the values of one or more camera acquisition parameters;

(c) identifying a plurality of groups of pixels that correspond to an image of a face within the digitally-captured image, and determining values corresponding to image attributes relative exposure or size, or both, of said groups of pixels; and

(d) comparing one or more default image attribute values of relative exposure or size, or both, with one or more captured image attribute value values of relative exposure or size, or both, based upon analysis of said image of said face; and

(e) adjusting in a post-image capture process said camera acquisition image parameters corresponding to adjusting said image attribute values of relative exposure or size, or both, of said face.

Claim 24 (currently amended): The one or more storage devices of claim 23, ~~each of the steps~~ the method being performed within a digital still camera.

Claim 25 (currently amended): The one or more storage devices of claim 23, ~~each of the steps~~ the method being performed within a digital video camera.

Claim 26 (currently amended): The one or more storage devices of claim 23, the one or more parameters including ~~overall exposure, relative exposure of said face, orientation, color balance, white point, tone reproduction, size, or focus, or combinations thereof.~~

Claim 27 (currently amended): ~~The one or more storage devices of claim 23 Within a digital acquisition device, one or more processor readable storage devices having processor readable code embodied thereon, said processor readable code for programming one or more processors to perform a method of perfecting acquisition parameters of a digital image as part of an image capture process using face detection within said captured image to achieve one or more desired image acquisition parameters, the method comprising:~~

(a) determining default values of one or more image attributes of at least some portion of said digital image;

(b) determining the values of one or more camera acquisition parameters;

(c) identifying a plurality of groups of pixels that correspond to an image of a face within the digitally-captured image, and determining corresponding image attributes to said groups of pixels; and

(d) comparing one or more default image attribute values with one or more captured image attribute value based upon analysis of said image of said face; and

(e) adjusting said camera acquisition parameters corresponding to adjusting said image attribute values,

~~the face pixels identifying step of face pixels~~ being automatically performed by an image processing apparatus, the method further comprising manually removing one or more of said plurality of groups of pixels that correspond to said image of said face.

Claim 28 (currently amended): The one or more storage devices of claim 27, the ~~method of manually manual~~ removing of one or more detected faces being performed in response to false detection of regions as faces.

Claim 29 (currently amended): The one or more storage devices of claim 27, the ~~method of manually manual~~ removing of one or more detected faces being performed in response to a determination to concentrate on less said image faces than faces identified in said identifying step.

Claim 30 (currently amended): The one or more storage devices of claim 27, the ~~method of manually~~ manual removing of one or more detected faces being performed by increasing a sensitivity level of said face identifying ~~step~~.

Claim 31 (currently amended): The one or more storage devices of claim 27, the ~~method of manually~~ manual removing one or more detected faces as recited being performed by an interactive visual method.

Claim 32 (original): The one or more storage devices of claim 27, the method being performed using an image acquisition built-in display.

Claim 33 (currently amended): The one or more storage devices of claim 23, the ~~face pixels~~ identifying step of face pixels being automatically performed by an image processing apparatus, the method further comprising manually adding an indication of another face within the image.

Claim 34 (currently amended): The one or more storage devices of claim 23, the ~~face pixels~~ identifying step of face pixels being automatically performed by an image processing apparatus which receives a relative value as to a detection assurance.

Claim 35 (currently amended): The one or more storage devices of claim 23, the ~~face pixels~~ identifying step of face pixels being automatically performed by an image processing apparatus which receives a relative value as to an estimated importance of said detected regions.

Claim 36 (currently amended): The one or more storage devices of claim 35, the ~~face pixels~~ identifying step of face pixels being automatically performed by an image processing apparatus, the method further comprising manually modifying said relative value as to the estimated importance of said detected regions.

Claim 37 (currently amended): One or more processor readable storage devices having processor readable code embodied thereon, said processor readable code for programming one or more processors to perform a method of digital image processing using face detection to achieve a desired image parameter, comprising ~~the steps of:~~:

- (a) identifying a group of pixels that correspond to an image of a face within a digitally-detected image;
- (b) determining initial values of ~~one or more parameters relative exposure or size, or both,~~ of at least some of the pixels; and
- (c) determining an initial parameter ~~relative exposure or size, or both,~~ of the digitally-detected image of said face based on the initial values; and
- (d) automatically adjusting values of the ~~one or more parameters relative exposure or size, or both,~~ of pixels within the digitally-detected image of said face based upon comparison of the initial ~~parameter relative exposure or size, or both,~~ of said face with the a desired parameter ~~relative exposure or size, or both,~~ of said face.

Claim 38 (original): The one or more storage devices of claim 37, the method being performed within a digital camera.

Claim 39 (currently amended): The one or more storage devices of claim 38, ~~the one or more parameters including overall exposure, comprising determining one or more initial values of relative exposure, orientation, color balance, white point, tone reproduction, size, or focus, or combinations thereof of said face, and adjusting one or more values of the relative exposure of said face.~~

Claim 40 (currently amended) The one or more storage devices of claim 38, the ~~face pixels identifying step of face pixels~~ being automatically performed by an image processing apparatus, the method further comprising manually removing a false indication of another face within the image.

Claim 41 (currently amended): The one or more storage devices of claim 38, the ~~face pixels identifying step of face pixels~~ being automatically performed by an image processing apparatus, the method further comprising manually adding an indication of another face within the image.

Claim 42 (currently amended): The one or more storage devices of claim 37, the ~~one or more parameters including overall exposure, method comprising determining and adjusting a relative exposure, orientation, color balance, white point, tone reproduction, size, or focus, or combinations thereof of said face~~.

Claim 43 (currently amended): ~~The one or more storage devices of claim 37 One or more processor readable storage devices having processor readable code embodied thereon, said processor readable code for programming one or more processors to perform a method of digital image processing using face detection to achieve a desired image parameter, comprising:~~

- (a) ~~identifying a group of pixels that correspond to an image of a face within a digitally-detected image;~~
- (b) ~~determining initial values of one or more parameters of at least some of the pixels; and~~
- (c) ~~determining an initial parameter of the digitally-detected image based on the initial values; and~~
- (d) ~~automatically adjusting values of the one or more parameters of pixels within the digitally-detected image based upon comparison of the initial parameter with the desired parameter,~~

~~wherein the face pixels identifying of face pixels is step being automatically performed by an image processing apparatus, the method further comprising manually removing a false indication of another face within the image.~~

Appl. No. 10/608,887

Amendment dated January 12, 2007

Reply to Office Action mailed November 15, 2006

Claim 44 (currently amended): The one or more storage devices of claim 37, the ~~face pixels~~ identifying ~~step of face pixels~~ being automatically performed by an image processing apparatus, the method further comprising manually adding an indication of another face within the image.